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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,995	01/22/2004	John Moon	IP-0025-US	8238

7590 06/09/2006

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EXAMINER

LAVARIAS, ARNEL C

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

2

Office Action Summary	Application No. 10/763,995	Applicant(s) MOON ET AL.	
	Examiner Arnel C. Lavarias	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/4/06, 1/27/06, 12/22/05, 10/13/05, 9/14/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-44 is/are pending in the application.
- 4a) Of the above claim(s) 22-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20, 21 and 35 is/are rejected.
- 7) ☒ Claim(s) 26-34 and 36-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/22/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Invention II (Claims 26-34, 36-44) in the reply filed on 1/26/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 22-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/26/06.

Drawings

3. The marked-up copies of the drawings including drawing corrections were received on 10/13/05.
4. The replacement drawings (*which did not include the drawing corrections noted above*) were also received on 10/13/05. These drawings are objected to for the following reason(s) as set forth below.
5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:
Figure 40- Reference numeral 686 (See upper right side of figure).
Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37

CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

6. Three identical information disclosure statements were filed 12/22/05. Since all three information disclosure statements are identical, one has been considered, and the other two copies have been crossed out, since the information within these copies are identical to the one that has been considered.

Response to Amendment

7. The amendments to the specification and abstract of the disclosure in the submission dated 9/14/05 are acknowledged and accepted.
8. The cancellation of Claims 1-19 in the submission dated 9/14/05 is acknowledged and accepted.
9. The addition of Claims 20-44 in the submission dated 9/14/05 is acknowledged and accepted.

Art Unit: 2872

10. The amendments to the specification in the submission dated 10/13/05 are acknowledged and accepted.
11. The amendments to Claims 20, 37-44 in the submission dated 4/4/06 are acknowledged and accepted.

Response to Arguments

12. In view of the cancellation of Claims 1-19 above, the objections to the claims in Section 9 of the Office Action dated 5/12/05 are respectfully withdrawn. Further, the obviousness-type double patenting rejections in Sections 11-12, as well as the rejections in Sections 14-21 of the Office Action dated 5/12/05 are respectfully withdrawn.
13. Claims 20-21, 35 are rejected as follows.

Specification

14. The abstract of the disclosure is objected to because of the following informalities:
Abstract is too long.
Correction is required. See MPEP § 608.01(b).
15. The disclosure is objected to because of the following informalities:
Page 18, lines 22-23- appropriate publication serial numbers should be supplied
Page 19, line 17- '811' should read '812'.
Appropriate correction is required.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

17. Claims 20 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Colston et al. (U.S. Patent No. 6905885).

Colston et al. discloses an apparatus (See for example Figures 7-9) for reading microbeads (See for example 12, 12' in Figure 7) that form part of an array process, comprising an alignment substrate (See for example 17 in Figure 7) for receiving the microbeads thereon; and a bead mapper (See for example Figures 8-9; col. 6, line 3-col. 8, line 50) for reading codes of the microbeads and the position order thereof on the alignment substrate. In addition, Colston et al. discloses a method of performing an assay process (See for example Figures 4-9; col. 6, line 3-col. 8, line 50), comprising the steps of providing microbeads in a solution (See Figures 4-6); placing the microbeads on an alignment substrate (See 12, 12', 17 in Figure 7); reading codes of the microbeads and the position thereof on the alignment substrate using a bead mapper (See for example Figures 8-9; col. 6, line 3-col. 8, line 50); reading the fluorescence on each microbead and the position order thereof on the alignment substrate using a scanner (See 28 in Figures 8-9; col. 8, lines 13-50); and determining an assay result based on bead position

order and bead code of the earlier reading steps (See for example Figures 8-9; col. 5, line 53-col. 6, line 2; col. 6, lines 32-34).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colston et al. in view of Nova et al. (WO 96/36436 A1).

Colston et al. discloses the invention as set forth above in Claim 20, except for the fluorescence reading step being performed before the code reading step. However, Nova et al. teaches a conventional assay process (See for example Figures 5, 17-18, 20; Pages 100-123) that utilizes microbeads, wherein the fluorescence signal is measured after an assay is performed. After the measurement of the fluorescence signal is measured, a code reading is performed (See Page 109, lines 3-27). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the fluorescence reading step be performed before the code reading step, as taught by Nova et al., in the method of Colston et al., to reduce processing and analysis time by only reading the codes of those microbead identified in the fluorescence reading step.

Allowable Subject Matter

20. Claims 26-34, 36-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
21. The following is a statement of reasons for the indication of allowable subject matter:

Claims 26 and 36 are allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a method of performing an assay process and an apparatus for reading microbeads, as generally set forth in Claims 20, 26, 35-36, the method and apparatus including, in combination with the steps and features recited in Claims 20, 26, 35-36, a portion of the particle substrate being made of a substantially single material and having at least one diffraction grating embedded therein, the grating having a resultant refractive index variation within the single material, the grating providing an output signal indicative of a code when illuminated by an incident light signal propagating from outside the substrate. Claims 27-34, 37-44 are dependent on Claims 26 and 36, and hence are allowable for at least the same reasons Claims 26 and 36 are allowable.

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Arnel C. Lavarias
6/5/06



THONG NGUYEN
PRIMARY EXAMINER